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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,116	11/01/2003	Christian Fleury	P-11714.00 US	8928
27581	7590	06/21/2005	EXAMINER	
MEDTRONIC, INC. 710 MEDTRONIC PARKWAY NE MS-LC340 MINNEAPOLIS, MN 55432-5604			TAMAI, KARL I	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,116

Applicant(s)

FLEURY ET AL.

Examiner

Tamai IE Karl

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-41 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 01 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/20/2004.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

It does not identify the city and either state or foreign country of residence of each inventor. The residence information may be provided on either on an application data sheet or supplemental oath or declaration.

The oath and data sheet is defective because the mailing address and residence of Thierry Bieler is incomplete.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the rectangle shaped conductive element must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

Art Unit: 2834

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. Particularly, the brief description of the drawings should include a brief description of Figures 4a, 4b, and 4c rather than Figure 4 (there is no Figure 4); and Figures 5a and 5b rather than Figure 5 (there is no Figure 5).

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

5. Claims 2, 7, 8, 9, 23, and 24 are objected to because of the following informalities: claim 2 does not provide antecedent basis for "the protective layer". Claim 7 is vague and indefinite because it is unclear what constitutes or what are the metes and bounds "self supporting". For the purpose of advancing prosecution, the examiner reads self supporting as supportless motor or a motor with no teeth/poles for the windings. Claims 8, 9, 23, and 24 are vague and indefinite because it is unclear what constitutes or what are the metes and bounds of a self-supporting winding A. For the purpose of advancing prosecution the examiner reads self supporting type A as three coils each consisting of two semi coils (page 9 of specification). Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 5-9, 12-15, 22-24, 27-30 and 37-40 are rejected under 35 U.S.C. 102(b) as anticipated by Dunlop et al. (Dunlop)(WO93/26705) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Dunlop et al. (Dunlop)(WO93/26705) and Vaerenbergh (Ageing of Permanent Magnet Devices at the ESRF).

Art Unit: 2834

Dunlop teaches a housing 19 supporting a laminated armature 13 with a self supporting winding 12 for the motor and a permanent magnet rotor 11 mounted on a shaft extending through the housing. Dunlop teaches the coils selectively connected to a power supply by controller 76. Dunlop teaches the rotor magnet being VACODYM 400 NdFeB (inherently has a remanence greater than or equal to 1T). Dunlop teaches the coils being a self supporting type A- three phase, two pole(semi coils) winding. Dunlop teaches the core having laminations of .02 mm thickness. Dunlop shows the housing 19 having a small dimension approximately the size of the air gap (0.5mm). Dunlop teaches the stator core is between 16-22mm. Dunlop clearly teaches the housing less than 20mm because Figure 2 can be used for what it reasonably teaches to a person of ordinary skill in the art. Dunlop does not literally teach VACODYM 400 having a remanence of greater than or about equal to 1T). Vaerenbergh teaches the range of 1.05-1.15 T. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Dunlop with the remanence greater than or equal to about 1.15 T to provide an optimize the flux and torque in the motor, and it is within the ordinary skill in the art to choose within range of the magnet, as shown by Vaerenbergh.

The examiner notes that the method of making limitation of the 1 T after remanence after autoclaved is a method of making limitation that is not germane to the patentability of the apparatus, therefore has not been given patentable weight.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. (Dunlop)(WO93/26705) and Shirakawa (US 5140210). Dunlop teaches every aspect of the invention, except the protective brass layer between the stator and rotor. Shirakawa teaches a protective brass layer 44 to support the rotor for safe and high speed rotation. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Dunlop with the brass protective cover of Shirakawa to allow safe high speed rotation.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. (Dunlop)(WO93/26705) and Vaerenbergh (Ageing of Permanent Magnet Devices at the ESRF). Dunlop teaches every aspect of the invention except the magnet having a remenance greater than or equal to about 1.15 T. Vaerenbergh teaches the range of 1.05-1.15 T. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Dunlop with the remenance greater than or equal to about 1.15 T to provide an optimize the flux and torque in the motor, and it is within the ordinary skill in the art to choose within range of the magnet, as shown by Vaerenbergh.

11. Claims 8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. (Dunlop)(WO93/26705) and Ozawa et al. (Ozawa)(EP 1 073 179). Dunlop teaches every aspect of the invention except the self supporting coil being rhombic. Ozawa teaches a slotless dynamo electric machine having rhombic coil to provide high output and miniaturization. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Dunlop with the rhombic coils of Ozawa to provide high output and miniaturization.

12. Claims 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. (Dunlop)(WO93/26705) and Sawada et al. (Sawada)(US 6133667). Dunlop teaches every aspect of the invention except the conductive element having a rectangular shape. Sawada teaches a slotless dynamo electric machine having rectangular coils to reduce the height of the coils. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Dunlop with the coils of Sawada to provide a compact slotless motor, and because it is within the ordinary skill in the art to choose between known equivalents.

13. Claims 11 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. (Dunlop)(WO93/26705) and Perkins (US 6208056). Dunlop teaches every aspect of the invention except the thermoplastic element disposed about a conductive element. Perkins teaches a slotless dynamo electric machine having the coils supported by a thermoplastic resin. It would have been obvious to a person of

Art Unit: 2834

ordinary skill in the art at the time of the invention to construct the motor of Dunlop with the thermoplastic resin about the coils to provide a good strength insulator to support the coils in the core, as taught by Perkins.

14. Claims 13-17 and 28-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunlop et al. (Dunlop)(WO93/26705) and Wallner et al. (Wallner)(US 6107704). Dunlop teaches every aspect of the invention except the diameter of the housing being less than 30, 25, 20, 16, or in the range of 15-16 mm. Wallner teaches a small motor with a housing diameter of 15mm. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Dunlop with the housing being 15 mm because Wallner teaches that 15 mm is a preferred size for small motors to fit in small places.

15. Claims 18-21, 33-36 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunlop et al. (Dunlop)(WO93/26705) and Lou et al. (Lou)(US 5990584). Dunlop teaches every aspect of the invention except length of the stator being less than 100, 60, 50, or in the range of 40-50 mm. Lou teaches a small motor with a length of 45 mm. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Dunlop with the stator core length of 45 mm because Lou teaches that permanent magnet motors are designed to be small with low voltage and good torque characteristics.


Art Unit: 2834

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (703) 872 - 9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai
PRIMARY PATENT EXAMINER
June 17, 2005



KARL TAMAI
PRIMARY EXAMINER